

云南粗叶木属一新亚种及其生物地理学意义

朱 华 王 洪 李保贵

(中国科学院西双版纳热带植物园昆明分部 昆明 650223)

A new subspecies of the genus *Lasianthus* Jack (Rubiaceae) from Yunnan with reference to its biogeographical implication

ZHU Hua WANG Hong LI Bao-Gui

(Kunming Section of Xishuangbanna Tropical Botanical Garden, the Chinese Academy of Sciences, Kunming 650223)

Key words *Lasianthus rhinocerotis* subsp. *xishuangbannaensis*; New subspecies; Biogeography; Yunnan

关键词 版纳粗叶木; 新亚种; 生物地理; 云南

版纳粗叶木 新亚种

Lasianthus rhinocerotis Bl. subsp. *xishuangbannaensis* H. Zhu et H. Wang, subsp. nov.

Fig. 1

A typo ramulis juvenibus patenter sparseque hirtis, vetustis glabrescentibus, foliis chartaceis, costis et nervis subtus patenter sparseque hirtis, nervulis subreticulatis, stipulis sparse hirtis differt; a subsp. *pedunculato* (Pitard.) H. Zhu ramulis juvenibus patenter sparseque hirtis, vetustis glabrescentibus, foliis chartaceis basi rotundis vel subcordatis, nervis lateralibus utrinque 7~8, costis et nervis subtus patenter sparseque hirtis, stipulis anguste triangularibus sparse hirtis, bracteis tenuibus differt.

China. Yunnan(云南): Xishuangbanna (西双版纳), Mengsoon (勐宋), alt. 1600 m, in forest, H. Zhu et H. Wang (朱华、王洪), 98-11-01 (holotype! HITBC).

Thailand(泰国). Central Thailand, alt. 1200 m, H. Zhu (朱华) 91-5-12-01 (HITBC); Nan, Tirvengadam *et al.* 2013 (AAU).

This subspecies differs from the typical one in having branches sparsely hairy when young but later glabrescent, chartaceous leaves with nerves 7~8 paired, subreticulate nervules, and sparse hairs on nerves beneath and stipules. It differs from *L. rhinocerotis* Bl. subsp. *pedunculatus* (Pitard) H. Zhu also in having branches sparsely hairy when young but later glabrescent, chartaceous leaves with rounded or slightly cordate bases, sparse hairs on nerves beneath, angustitriangular stipules, and gracile bracts.

The typical subspecies occurs in southern Thailand, Malaysia and Indonesia (Java, Sumatra

tion pattern of the species *L. rhinocerotis* and its subspecies could be better explained, and vice versa.

References

- Audley-Charles M G, 1987. Dispersal of Gondwanaland: relevance to evolution of the angiosperms. In: Whitmore T C. Biogeographical Evolution of the Malay Archipelago. Oxford: Clarendon Press
- Hall R, 1998. The plate tectonics of Cenozoic SE Asia and the distribution of land and sea. In: Hall R et Holloway J D. ed. Biogeography and Geological Evolution of SE Asia. Leiden: Backbuys Publishers. 99 ~ 131
- Li H(李恒), 1994. The biological effect to the flora of Dulongjiang caused by the moment of Burman-Malaya geoblock. Acta Bot Yunnan Suppl. (云南植物研究, 增刊), VI: 113 ~ 120
- Li X W(李锡文), Li J(李捷), 1992. On the validity of Tanaka line & its significance viewed from the distribution of eastern Asiatic genera in Yunnan. Acta Bot Yunnan (云南植物研究), 14(1): 1 ~ 12
- Metcalfe I, 1998. Palaeozoic and Mesozoic geological evolution of the SE Asia region: multidisciplinary constraints and implications for biogeography. In: Hall R et Holloway J D. ed. Biogeography and Geological Evolution of SE Asia. Leiden: Backbuys Publishers. 25 ~ 41
- Morley J R, 1998. Palynological evidence for Tertiary plant dispersals in the SE Asian region in relation to plate tectonics and climate. In: Hall R et Holloway J D. ed. Biogeography and Geological Evolution of SE Asia. Leiden: Backbuys Publishers. 221 ~ 234
- Tanaka T, 1954. Species Problem in *Citrus*. Tokyo: Japanese Society for the Promotion of Science. 58 ~ 69
- Zhu H(朱华), 1994. Floristic relationships between dipterocarp forests of Xishuangbanna and forests of tropical Asia and S China. Acta Bot Yunnan (云南植物研究), 16 (2): 97 ~ 106
- Zhu H(朱华), 1995. A phytogeographical study on the genus *Lasianthus* Jack in China. Guihaia(广西植物), 15 (4): 307 ~ 318
- Zhu H(朱华), Wang H(王洪), Li B-G(李保贵) et al., 1997. Floristic relationships between the limestone flora and neighboring floras of tropical Asia and south China. Acta Bot Yunnan (云南植物研究), 19(4): 357 ~ 365
- Zhu H, 1997. Ecological and biogeographical studies on the tropical rain forest of south Yunnan, SW China with a special reference to its relation with rain forests of tropical Asia. J Biogeogr, 24: 647 ~ 662

(责任编辑 白羽红)

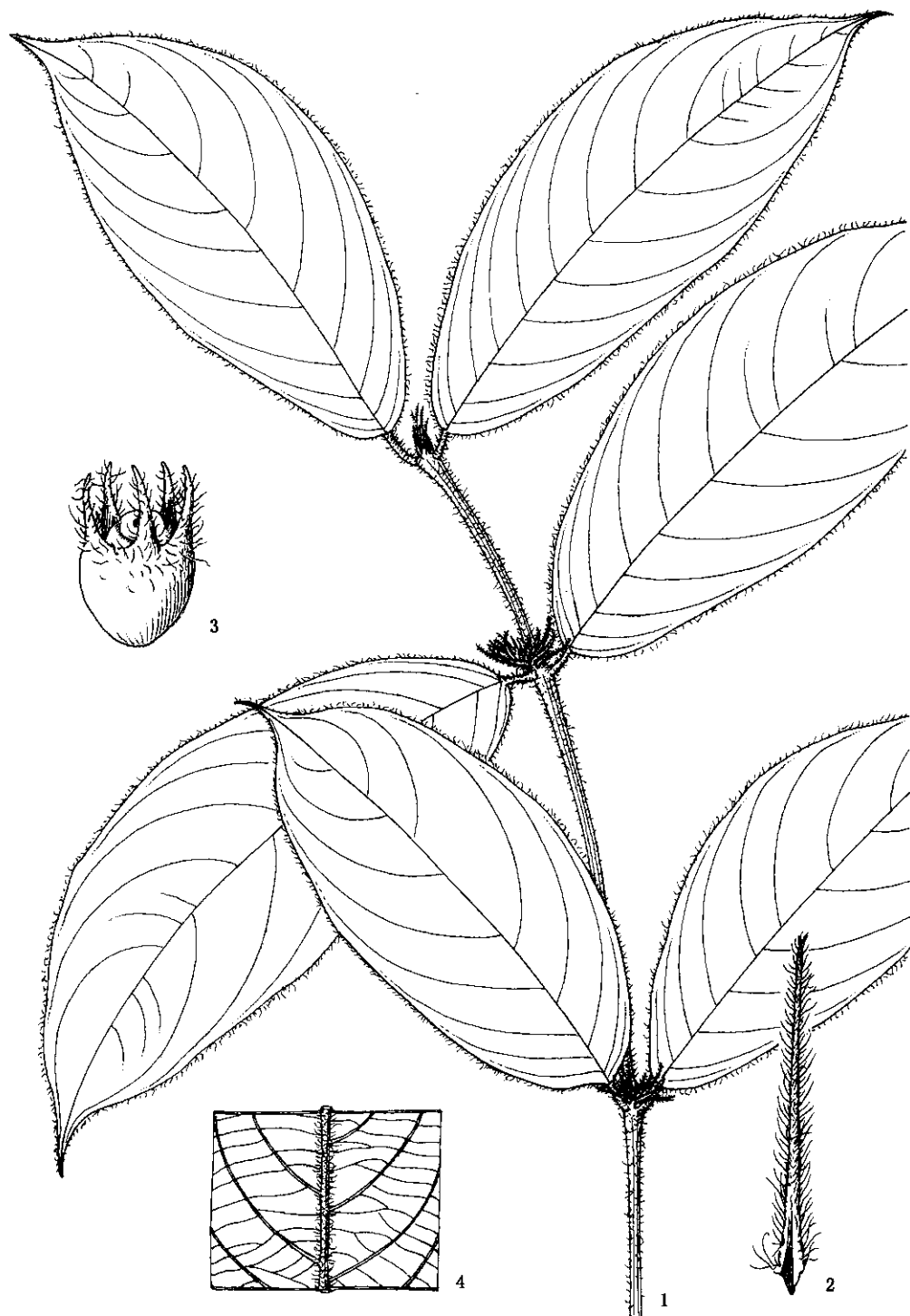


Fig.1 *Lasianthus rhinocerotis* subsp. *xishuangbannaensis*

1. Fruiting branch; 2. Bract; 3. Fruit; 4. Lower surface of a leaf(enlarged) (吴锡麟 绘)

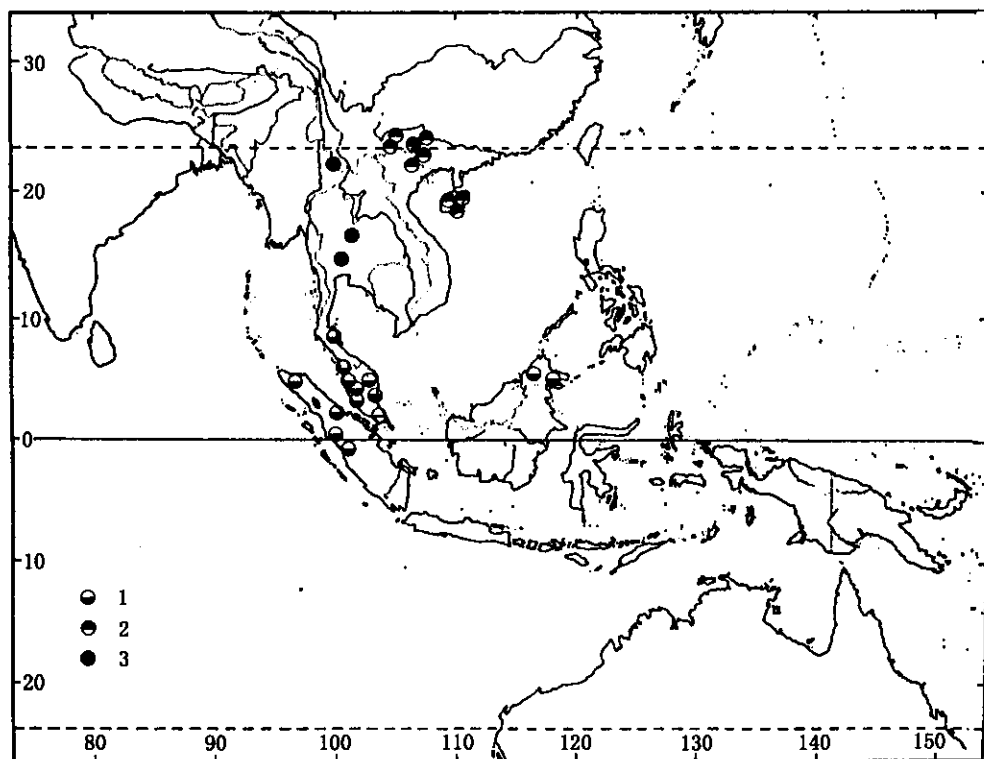


Fig.2 Distribution of the species *Lasianthus rhinocerotis* and its subspecies

1. *L. rhinocerotis* subsp. *rhinocerotis*; 2. *L. rhinocerotis* subsp. *pedunculatus*; 3. *L. rhinocerotis* subsp. *xishuangbannaensis* and Kalimantan). The subspecies *pedunculatus* occurs in northern Vietnam, SE Yunnan, SW Guangxi and Hainan of China. It is interesting that our new subspecies from northern Thailand and Yunnan is more similar to the typical one, especially to the specimens from Kalimantan in morphological characteristics (Fig. 2).

Mainland SE Asia was a complex of geological fragments. Indochina-SE China was originally from Laurasia, while India-Myanmar was originally from Gondwana (Metcalf 1998, Audley-Charles 1987). "Tanaka line", running from NW Yunnan to SE Yunnan, was supposed to be a plant geographical demarcation (Li & Li 1992, Tanaka 1954). This is partially supported by geology because the western side of the line was mostly derived from Gondwana, while the eastern side of the line was from Indo-China plate of Laurasia. A similar opinion was given based on a research of the flora of SW Yunnan by Li (1994), who suggested that S Yunnan and N Thailand was a part of Shan-Thai-Malay plate of Gondwana. These suggestions are supported by the distribution of the species *L. rhinocerotis* and its subspecies. Based on the studies on the tropical vegetation and flora of S Yunnan, we would suggest that the tropical flora of S Yunnan has close affinity to the flora of SE Asia (Zhu 1997, 1995, 1994, Zhu *et al.* 1997). Direct land connection between mainland SE Asia and W Malesia could be existent until early Pliocene (5 Ma ago) (Hall 1998) and there was no geographical barrier to natural distribution of plants between mainland SE Asia and W Malesia during most of the Tertiary (Morley 1998). Based on the geological evolution of SE Asia, the distribu-